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ABSTRACT

The shortage of mathematics teachers is apparent in all 50 states with indications of increasing shortages. A three-phase study of mathematics education was designed to explore some factors of this trend. Phase 1 consisted of a literature search on mathematics teacher shortage in Wisconsin and the United States, identification of a sampling population of mathematics education majors of the University of Wisconsin-Oshkosh from 1960-1985, and the development of a questionnaire. Phase 2 concentrated on the sampling of the selected population. A summarization of the related literature and survey results comprised Phase 3. The return rate obtained in this study was 216 out of 322, or 67 percent. Survey findings indicated that 61.8 percent of the respondents were presently teaching. Data indicated that 29.5 percent of the respondents taught but left teaching while 8.6 percent never taught. The respondents also provided a ranking of the strengths and weaknesses of the university's program. (The complete questionnaire is included in the Appendix). (ML)

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A Follow-up Study of the Mathematics Education Majors from the University of Wisconsin-Oshkosh 1960-1985

Raymond Charles Schmelter

A Curriculum Development Project Funded by
the Faculty Development Program
at the
University of Wisconsin-Oshkosh

SE 046 334

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Introduction

Mathematics teachers are in short supply in all 50 states. Not only are fewer mathematics teachers coming out of colleges, but most can double or triple their salaries by taking technical jobs in private industry (Wellborn, 1982).

This shortage of mathematics teachers has been well documented for many years. Based upon a survey of teacher placement officers and school administrators (Akins, 1981), mathematics was number one relative to teaching fields with a considerable teacher shortage. In the same survey (conducted for the Association for School, College, and University Staffing) it was found that 22% of high school teaching posts in mathematics were vacant nationwide. Wellborn (1982) stated that in Iowa an average of 200 new mathematics teachers will be needed each year for the next few years. In Education USA (1981), it was reported that the number of emergency certificates issued in Missouri to teachers of mathematics increased 43% over the previous year. In Massachusetts, before the tax cap slashed staffs, small school districts could not hold onto mathematics teachers lured away by high technology industries in the state. Virginia reported that in 1980 there was a 38% gap between the jobs available for mathematics teachers and its graduates prepared to teach the subject.

Mathematics supervisors (Education USA, 1980) believe the shortage of mathematics teachers will worsen, with 73% of them predicting it will be very difficult to fill math vacancies over the next two years. They also reported that 25% of all math

teaching positions in 1980 were held by teachers not permanently certified in math. They blame competition from salaries offered by industries and "difficult" teaching conditions as the two principle reasons for the shortage.

In a study by Williams (1981) it was reported that 45% of the teachers teaching mathematics in North Carolina were not certified in mathematics. It was stated in this study that in late August of each year North Carolina's principals' greatest concern is to get a body into every classroom. The three frequently used strategies for selecting persons to teach mathematics are (1) to reassign a non-mathematics teacher already on the staff, (2) split a mathematics teaching load among several other teachers, or (3) hire a new faculty member who is not certified in mathematics. Even though these strategies are used, North Carolina's teacher certification system is based on the presumption that all secondary mathematics courses should be taught by teachers certified in mathematics. In this context, the shortage of mathematics teachers in North Carolina was close to 1000 teachers with a full load of mathematics.

Many experts pointing to the growing gap between teachers' salaries and those of people in private industry, expect shortages to worsen, particularly in grades 7 through 12. Mathematics teachers coming out of college already realize that the $12,000 paid to a beginning teacher is a lot less than the $20,000 they could earn in the first year with some computer firms. What's more, many say they feel more appreciated in private sector jobs than in the classroom (Wellborn, 1982).

Organization of the Study

The project consisted of three phases. Phase I included: (a) a search of the literature on the mathematics teacher shortage in Wisconsin and the United States, (b) a search in alumni files to find the addresses of all mathematics education majors from the University of Wisconsin-Oshkosh for the years 1960-1985, (c) the development of questionnaires used in the sampling of the mathematics education majors relative to their present position and to the secondary education program at the University of Wisconsin-Oshkosh for those preparing to teach mathematics. Phase 2 included the sampling of the University of Wisconsin-Oshkosh mathematics education graduates. Phase 3 included the summarization of the related literature and the results of the questionnaires.

Significance of the Investigation

The results of the study:

1. provided data that will help improve the quality of mathematics education at the University of Wisconsin-Oshkosh.
2. provided the investigator with new knowledge which will help him in the preparation of better mathematics teachers for the pupils of our schools.
3. provided data that showed how many of the mathematics education majors are employed as classroom teachers of mathematics.
4. provided data that showed why those who are no longer teaching left the profession.
5. provided data that showed what levels of mathematics are being taught by the University of Wisconsin-Oshkosh graduates.
6. provided data that showed what other employment opportunities are available for those prepared to become mathematics teachers.

7. provided a cadre of mathematics teachers who could help identify potential students for the mathematics education program at the University of Wisconsin-Oshkosh

Questionnaire Design and Selection of Participants

Consideration was given here to the development of questionnaires that could be sent through the mail. The chief advantage of the mail questionnaire was cheapness. Since it does not require a trained staff of field workers, virtually all that was required was the cost of the planning, printing or duplicating expenses, sampling, addressing, mailing, and providing stamped, self-addressed envelopes for the returns. Another advantage of the mail questionnaire was that a much larger sample could be covered and that the sampling was more accurate, since an envelope was addressed to a particular individual.

By far the largest disadvantage of mail questionnaires, however, is the fact that they usually produce very poor response rates. For respondents who have no special interest in the subject matter of the questionnaire, figures of 40 per cent to 60 per cent are typical; even in studies of interested groups, 80 per cent is seldom exceeded (Oppenheim, 1966, p. 34). The problem of response rate was not overcome entirely, but it was partly enhanced by sending out a suitably worded reminder.

Questionnaires were designed to be sent to the mathematics education graduates of the University of Wisconsin-Oshkosh from the years 1960-1985. The questionnaires were designed to answer the following questions for those graduates who are still teaching:

1. What per cent of the mathematics education graduates are still in the teaching profession?
2. At what level are these graduates teaching?

3. What subjects are presently being taught by these graduates?
4. What is the average number of years teaching in his/her present position?
5. What was the average number of years taught before moving to a new position?
6. Which courses taken at the University of Wisconsin-Oshkosh were of most value to the mathematics education major relative to his/her teaching effectiveness?
7. What were the major strengths of the teacher education program at the University of Wisconsin-Oshkosh?
8. What were the major weaknesses of the teacher education program at the University of Wisconsin-Oshkosh?

The questionnaires were designed to answer the following questions relative to those mathematics education majors who had taught but had left the teaching profession:

1. What per cent of the mathematics education graduates taught, but are not now teaching?
2. What types of positions are these former teachers in presently? Did their mathematics education major help in getting this position?
3. What was the average number of years taught before leaving the teaching profession? At what levels did these graduates teach?
4. What were the reasons for leaving teaching profession?
5. Which courses taken at the University of Wisconsin-Oshkosh were of most value to the mathematics education major relative to his/her teaching effectiveness?
6. What were the major strengths of the teacher education program at the University of Wisconsin-Oshkosh?
7. What were the major weaknesses of the teacher education program at the University of Wisconsin-Oshkosh?

The questionnaires were designed to answer the following questions relative to those mathematics education graduates who had never taught:

1. What per cent of the mathematics education graduates of the University of Wisconsin-Oshkosh never taught?
2. What types of positions are these graduates in presently?
3. What are the reasons for not teaching?

The University of Wisconsin-Oshkosh alumni office supplied a computer printout of the mathematics education graduates from the years 1960-1985. Two hundred seventy mathematics education majors

were included on the printout provided. After looking through graduation lists and class lists from those years, 52 more graduates and addresses were located which did not appear on the computer printout. A total of 322 questionnaires were sent to the mathematics education graduates. A stamped self-addressed envelope was provided for the return of the questionnaire. Samples of the questionnaire, cover letter, and follow-up letter can be found in Appendix A.

The questionnaires were mailed on May 6, 1985 with a return date of May 20, 1985. A follow-up letter was sent on June 10, 1985 to those who had not as yet responded. Two hundred sixteen of the questionnaires were returned. This was a 67 per cent return.

Analysis of the Data: Mathematics Education Majors Presently Teaching

Of the mathematics education majors from the University of Wisconsin-Oshkosh returning the questionnaire 136 are presently teaching. This is 61.8 per cent of the respondents. Sixty-five of those persons presently teaching (47.8 per cent) have completed a master's degree and 3 (2 per cent) have completed a PH.D.

Thirteen persons are teaching in grades 6-8, 27 in grades 7-9, 88 in grades 9-12, 6 in college, and 6 in vocational/ technical institutions. Four of these persons indicated they were teaching in more than one of the mentioned levels, e.g., grades 7-12.

Thirty-seven persons indicated that they taught junior/middle school mathematics, 38 taught general mathematics/consumer mathematics, 46 taught computer science/computer literacy, 58 taught algebra I, 39 taught geometry, 37 taught algebra II, 15 taught math III, and 25 taught math IV.

The average number of years in their present position was 10.3 years. Fifty-seven (41.9 per cent) of the graduates remained in the same position as the original appointment. Of those changing positions, the average number of years before change was 6 years. Only 3 of the 136 respondents said they would not become teachers if they had to do it over again.

The respondents were asked to rate courses taken at the University of Wisconsin-Oshkosh in terms of their value in helping teach effectively in the classroom. Only those courses taken at the University of Wisconsin-Oshkosh were to be included. Ratings were given on a 4 point scale with 1 as low value and 4 as high value. Table 1 shows the ratings given by those persons presently teaching.

TABLE 1

Course	N	Mean Rating
Student Teaching	136	3.69
Mathematics Methods	133	3.24
Junior Clinical Experience	60	3.07
Adolescent Development	108	2.54
Exceptionality	39	2.18
Reading	48	2.04
Measurement/Evaluation	120	1.93
Social Foundations	108	1.81
Education/Minority Groups	34	1.65
Orientation to Public Education	93	1.62

The major strengths and weaknesses of the mathematics education program at the University of Wisconsin-Oshkosh as identified by those presently teaching are listed below. Only those strengths and weaknesses with 10 or more respondents are listed. The number in parenthesis is the number of respondents who listed a particular strength or weakness.

The major strengths are:

1. A strong student teaching program including excellent cooperating teachers (84).
2. A good mathematics methods course (52).
3. A strong background in mathematics (43).
4. Good instructors in both mathematics and mathematics methods (13).
5. The junior-clinical experience (early experience in the schools) (12).
6. The intern program (11).

The major weaknesses are:

1. Need for more knowledge related to handling discipline problems and unmotivated students (54).
2. Too much emphasis on theory, not enough practical ideas for teaching (31).
3. Need for more time in classroom (extended student teaching (28).
4. Need for earlier experiences (prior to student teaching) (27).
5. Mathematics courses taken in major were not relevant to teaching middle/junior high school or high school mathematics (12).
6. Need for ideas in classroom management, i.e., planning, grading, testing, homework, etc. (12).
7. Need for ideas in how to work with parents, counselors, social workers, administrators, teacher unions, and other teacher organizations (11).
8. Need for knowledge on legal rights of students, teachers, and parents (10).

Analysis of the Data: Mathematics Education Majors Who Taught and Left Teaching

Out of the 220 questionnaires returned, 65 (29.5 per cent) mathematics education majors from the University of Wisconsin-Oshkosh indicated they had taught and had left teaching. Sixteen of these persons (24.6 per cent) indicated they had received a

master's degree, 1 (1.5 per cent) had completed a PH.D., and 1 (1.5 per cent) had completed a law degree.

The average number of years of teaching before leaving teaching was 4.2 years. The least number of years taught was .5 years and the greatest number of years taught was 13. Twelve of the graduates had taught at the middle/junior high school level only, 23 had taught at both the middle/junior high school and high school levels, 18 had taught at only the high school level, 5 at the vocational/technical school level, and 7 at the college level.

The reasons given for leaving the teaching profession were as follows: 16 indicated they left the profession to get married and raise a family, 10 indicated low salaries, 9 indicated teaching did not provide enough of an intellectual challenge, 7 indicated discipline problems in schools, 3 indicated that students were unmotivated and uninterested in school, and 1 indicated that the low status of teaching as a profession was reason for change. Other reasons given by former teachers were long hours, lack of administrative support, no jobs available, wanted job with less stress, left teaching to attend graduate school, and one person would still be teaching if meritorious teachers would be rewarded financially.

Thirty-eight of the respondents indicated that the mathematics education major helped in getting their present position. Twenty-seven said the major did not help in getting their present position. Of these 27, 16 indicated that the mathematics education major did not help in getting their present position (marriage and raising a family). Thirty-nine of the respondents indicated that they would obtain their mathematics

education degree if they had to do it over again, while 26 said that they would not.

The positions held by these graduates included 13 homemakers, 24 system analysts, 1 religious education director, 1 principal, 1 counselor, 1 certification officer, 1 director of research, 1 president of a company called "Careers", and 1 owner of o roller skating rink.

The respondents were asked to rate courses taken at the University of Wisconsin-Oshkosh in terms of their value in helping teach effectively in the classroom. Only those courses taken at the University of Wisconsin-Oshkosh were to be included. Ratings were given on a 4 point scale with 1 as low value and 4 as high value. Table 2 shows the ratings given by those persons who had taught, but had left the teaching profession.

TABLE 2

Course	N	Mean Rating
Student Teaching	61	3.74
Mathematics Methods	58	3.28
Junior Clinical Experience	21	3.00
Measurement/Evaluation	53	2.51
Adolescent Development	44	2.36
Reading	21	2.19
Education/Minority Groups	7	2.14
Exceptionality	12	2.08
Orientation to Public Education	36	1.75
Social Foundations	47	1.66

The major strengths and weaknesses of the mathematics education program at the University of Wisconsin-Oshkosh as identified by those who had taught and are no longer teaching are listed below. The number in parenthesis is the number of respondents who listed a particular strength or weakness.

The major strengths are:

1. A strong student teaching program including excellent cooperating teachers (18).
2. A strong background in mathematics (18).
3. A good mathematics methods course (4).
4. The intern program (2).

The major weaknesses are:

1. Need for knowledge related to handling discipline problems and unmotivated students (18).
2. Need for more time in classroom (extended student teaching) and need for earlier experiences (prior to student teaching) (11).

Analysis of the Data: Mathematics Education Majors Who Had Never Taught

Out of the 220 questionnaires returned, 19 (8.6 per cent) mathematics education majors from the University of Wisconsin-Oshkosh indicated they had never taught. Four of these persons (21 per cent) had received a master's degree.

The reasons given for never teaching were as follows: 6 indicated there were no teaching jobs available at time of graduation, 4 listed a change in career plans, 3 indicated they did not teach because of marriage and to raise a family, 3 indicated discipline problems in school, 1 indicated low salaries for teachers, 1 turned to farming, and 1 listed an opportunity for a job offer as an administrator at the college level.

Present occupations of these graduates include: sales, farming, certified public accounting (CPA), homemaking, president of a farm implement dealership, and computer analysts. Seven of the respondents indicated that the mathematics education major helped in getting their present position. Twelve indicated that the major did not help in getting their present position (3 are married and raising a family). Nine indicated they would obtain

their mathematics education degree if they had to do it over again, while 10 said they would not.

The major strengths and weaknesses of the mathematics education program at the University of Wisconsin-Oshkosh as identified by those persons who had never taught are listed below. The number in parenthesis is the number of respondents who listed a particular strength or weakness.

The major strengths are:

1. A strong student teaching program including excellent cooperating teachers (5).
2. A strong background in mathematics (2).
3. The intern program (2).

The major weaknesses are:

1. Need for more time in classroom (extended student teaching) and need for earlier experiences (prior to student teaching) (4).
2. Need for knowledge related to handling discipline problems and unmotivated students (3).

Summary

The number of mathematics teachers coming out of colleges has been on the decrease in the past decade. This shortage of mathematics teachers has been well documented for many years. Many experts pointing to the growing gap between teachers' salaries and those of people in private industry expect shortages to worsen, particularly in grades 7 through 12.

This study was completed to answer the following questions relative to those mathematics education majors who graduated from the University of Wisconsin-Oshkosh from 1960-85 and are presently teaching:

1. What per cent of the mathematics education graduates are still in the teaching profession?
2. At what level are these graduates teaching?
3. What subjects are presently being taught by these graduates?
4. What is the average number of years teaching in his/her present position?
5. What was the average number of years taught before moving to a new position?
6. Which courses taken at the University of Wisconsin-Oshkosh were of most value to the mathematics education major relative to his/her teaching effectiveness?
7. What were the major strengths of the teacher education program at the University of Wisconsin-Oshkosh?
8. What were the major weaknesses of the teacher education program at the University of Wisconsin-Oshkosh?

The questions to be answered relative to those who had taught, but had left the teaching profession are as follows:

1. What per cent of the mathematics education graduates taught, but are not now teaching?
2. What types of positions are these former teachers in presently? Did their mathematics education major help in getting this position?
3. What was the average number of years taught before leaving the teaching profession? At what levels did these graduates teach?
4. What were the reasons for leaving teaching profession?
5. Which courses taken at the University of Wisconsin-Oshkosh were of most value to the mathematics education major relative to his/her teaching effectiveness?
6. What were the major strengths of the teacher education program at the University of Wisconsin-Oshkosh?
7. What were the major weaknesses of the teacher education program at the University of Wisconsin-Oshkosh?

The questionnaires were designed to answer the following questions relative to those mathematics education graduates who had never taught:

1. What per cent of the mathematics education graduates of the University of Wisconsin-Oshkosh never taught?
2. What types of positions are these graduates in presently?
3. What are the reasons for not teaching?

The University of Wisconsin-Oshkosh alumni office supplied a computer printout of the mathematics education graduates from the

years 1960-1985. Two hundred seventy mathematics education majors were included on the printout provided. After looking through graduation lists and class lists from those years, 52 more graduates and addresses were located which did not appear on the computer printout. A total of 322 questionnaires were sent to the mathematics education graduates. A stamped self-addressed envelope was provided for the return of the questionnaire. Two hundred sixteen of the questionnaires were returned. This was a 67 per cent return.

Results

The questions of the study were tested in several ways. The summary of results is organized in terms of the questions of the study.

Graduates Presently Teaching

Question Number One

What per cent of the mathematics education graduates are still teaching?

Of the mathematics education majors from the University of Wisconsin-Oshkosh returning the questionnaire 136 are presently teaching. This is 61.8 per cent of the respondents.

Question Number Two

At what level are these graduates teaching?

Thirteen persons are teaching in grades 6-8, 27 in grades 7-9, 88 in grades 9-12, 6 in college, and 6 in vocational/ technical institutions.

Question Number three

What subjects are presently being taught by these graduates?

Thirty-seven persons indicated that they taught junior high/middle school mathematics, 38 taught general

mathematics/consumer mathematics, 46 taught computer science/computer literacy, 58 taught algebra I, 39 taught geometry, 37 taught algebra II, 15 taught math III, and 25 taught math IV.

Question Number Four

What is the average number of years teaching in their present position?

The average number of years in their present position was 10.3 years. Fifty-seven (41.9 per cent) of the graduates remained in the same position as the original appointment.

Question Number Five

What was the average number of years taught before moving to a new position?

Of those changing positions, the average number of years before change was 6 years.

Question Number Six

Which courses taken at the University of Wisconsin-Oshkosh were of most value to the mathematics education major relative to his/her teaching effectiveness?

The four courses of most value were (1) student teaching, (2) mathematics methods, (3) junior clinical experience, and (4) adolescent development.

Question Number Seven

What were the major strengths of the teacher education program at the University of Wisconsin-Oshkosh?

The major strengths of the program were (1) a strong student teaching program including excellent cooperating teachers, (2) a good mathematics methods course, and (3) a strong background in mathematics.

Question Number Eight

What were the major weaknesses of the teacher education program at the University of Wisconsin-Oshkosh?

The major weaknesses of the program were (1) need for knowledge related to handling discipline problems and unmotivated students, (2) too much emphasis on theory, not enough on practical ideas for teaching, (3) need for more time in classroom (extended student teaching), and (4) need for earlier experiences (prior to student teaching).

Graduates Who Taught and Left Teaching

Question Number One

What per cent of the mathematics education graduates taught, but are not now teaching?

Sixty-five (29.5 per cent) of the mathematics education majors indicated they had taught and had left teaching.

Question Number Two

What types of positions are these former teachers in presently? Did their mathematics education major help in getting this position?

The positions held by these graduates included 13 homemakers, 24 system analysts, 1 religion education director, 1 principal, 1 counselor,1 certification officer, 1 director of research, 1 president of a company called "Careers", and 1 owner of a roller skating rink. Thirty-eight of the respondents indicated that the mathematics education major helped in getting their present position. Twenty-seven said the major did not help in getting their present position. Of these 27, 16 indicated that the mathematics education major did not help in getting their present position (marriage and raising a family).

Question Number Three

What was the average number of years taught before leaving the teaching profession? At what levels did these graduates teach?

The average number of years of teaching before leaving teaching was 4.2 years. The least number of years taught was .5 years and the greatest number of years taught was 13. Twelve of the graduates had taught at the middle/junior high school level only, 23 had taught at both the middle/junior high school and high school levels, 18 had taught at only the high school level, 5 at the vocational/technical school level, and 7 at the college level.

Question Number Four

What were the reasons for leaving the teaching profession?

The reasons for leaving the teaching profession were as follows: 16 indicated they left the profession to get married and raise a family, 10 indicated low salaries, 9 indicated teaching did not provide enough of an intellectual challenge, 7 indicated discipline problems in schools, 3 indicated that students were unmotivated and uninterested in school, and 1 indicated that the low status of teaching as a profession was reason for change. Other reasons given by former teachers were long hours, lack of administrative support, no jobs available, wanted job with less stress, left teaching to attend graduate school, and one person would still be teaching if meritorious teachers would be rewarded financially.

Question Number Five

Which courses taken at the University of Wisconsin-Oshkosh were of most value to the mathematics education major relative to his/her teaching effectiveness?

The courses of most value were (1) student teaching, (2) mathematics methods, (3) junior clinical experience, (4) measurement/evaluation, and (5) adolescent development.

Question Number Six

What were the major strengths of the teacher education program at the University of Wisconsin-Oshkosh?

The major strengths were (1) a strong student teaching program including excellent cooperating teachers, and (2) a strong background in mathematics.

Question Number Seven

What were the major weaknesses of the teacher education program at the University of Wisconsin-Oshkosh?

The major weaknesses were (1) need for knowledge related to handling discipline problems and unmotivated students, and (2) need for more time in classroom (extended student teaching) and need for earlier experiences (prior to student teaching).

Graduates Who Had never Taught

Question Number One

What per cent of the mathematics education graduates of the University of Wisconsin-Oshkosh never taught?

Nineteen (8.6 per cent) of the graduates indicated that they had never taught.

Question Number Two

What types of positions are these graduates in presently?

Present occupations of these graduates include: sales, farming, certified public accounting (CPA), homemaking, president of a farm implement dealership, and computer analysts.

Question Number Three

What are the reasons for not teaching?

The reasons given for never teaching were as follows; 6 indicated there were no teaching jobs available at time of graduation, 4 listed a change in career plans, 3 indicated they did not teach because of marriage and to raise a family, 3 indicated discipline problems in school, 1 indicated low salaries for teachers, 1 turned to farming, and 1 listed an opportunity for a job offer as an administrator at the college level.

Recommendations

The data indicates that student teaching was of most value to the mathematics education major relative to his/her teaching effectiveness. The junior-clinical experience was also of value to these graduates. Two of the major weaknesses of the mathematics education program were (1) need for more time in the classroom (extended student teaching) and (2) need for earlier experiences (prior to student teaching). In 1960 the secondary student teaching experience included 1 hour a day in a school setting for a full 34 weeks. During the 1985-86 academic year student teaching at the secondary level has been extended from a 14 week half-day experience (6 credits) to a full-day experience (10 credits). A clinical experience at the secondary school level was begun in 1972. This junior year experience includes direct pre-student teaching in a classroom situation. Students are involved in beginning, planning, presenting, diagnosing, and evaluating activities under the guidance of an experienced teacher. This experience is taken in conjunction with the mathematics methods course. From all indications, two of the weaknesses noted by the graduates of the early years included in the study have been remedied.

The data also indicates that the secondary mathematics methods course was of great value to the graduates teaching effectiveness. The methods course should continue to stress teaching mathematics from the middle/junior high school through all courses taught at the high school level. The methods course, as well as courses in educational psychology, should emphasize

teaching strategies for unmotivated students and the handling of discipline problems in the secondary school.

Ideally such items as classroom management, writing objectives, instructional planning, lesson presentation skills, questioning skills, interpersonal communication skills, selecting and using media, and evaluation could be included in a general methods course for all students. There is just not enough time in a 3 credit methods course to include all of these components. Another weakness noted was a need for knowledge on legal rights of students, teachers, and parents. A course on Legal and Ethical Issues in Education is now required of all education majors.

It appears that most weaknesses of the mathematics education program as identified by the respondents have been corrected.

The mathematics education student should be advised that a mathematics education major in secondary education could lead to other occupations, as well as mathematics teaching. It is also recommended that mathematics education graduates should have some work in computer science (46 of the respondents are presently teaching computer science or computer literacy).

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APPENDIX A

THE UNIVERSITY OF WISCONSIN
OSHKOSH

May 6, 1985

Dear Math Education Graduate:

I need your help. Your name has been selected to participate in a follow-up study of the Mathematics Education Majors from the University of Wisconsin-Oshkosh.

It is hoped that the results of this study will give me information relative to the University of Wisconsin-Oshkosh math education graduates and give present students guidance in their endeavor to become mathematics teachers.

A NOTE ON CONFIDENTIALITY
A vital concern is the importance of confidentiality in research. The information you provide will remain confidential and at no time will results of the questionnaire be identified by respondent.

Since situations may differ greatly, and since I wish the results of the study to be as accurate as possible, I cannot overemphasize the importance of returning your completed questionnaire. Please complete the form and return it to me in the enclosed stamped envelope.

I appreciate your time and cooperation and look forward to receiving your completed questionnaire by May 20, 1985.

Sincerely,

R. Schmelter

Dr. Raymond C. Schmelter, Professor
Curriculum and Instruction Department

DEPARTMENT OF CURRICULUM & INSTRUCTION • COLLEGE OF EDUCATION AND HUMAN SERVICES
THE UNIVERSITY OF WISCONSIN OSHKOSH • OSHKOSH WISCONSIN 54901
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College of Education and Human Services
University of Wisconsin-Oshkosh
Follow-up survey of math-education majors: MAY 1985

1. Name _____Maiden Name_____
2. Home Address _____
   _____
3. Major(s): Mathematics & _____
   Minor(s): _____ & _____
   Year of graduation _____
4. Graduate education
   Degree(s) M.S._____ Major_____ University_____
   Ph.D.____ Major_____ University_____

If you are PRESENTLY TEACHING complete items 5, 8, 9, and 10.

If you HAVE TAUGHT and are NOT PRESENTLY TEACHING complete items 6, 8, 9, and 10.

If you HAVE NEVER TAUGHT complete items 7, 9, and 10.

5. Present Teaching Assignment: School_____
   City_____ State_____
   Grade level of present assignment (check all that apply)
   6-8_____ 7-9_____ 9-12_____ 10-12_____ College_____
   Voc/Tech_____ Other (explain)_____
   Subjects you are teaching at present (check all that apply)
   middle/junior high school math_____ general math_____
   consumer math_____ computer math_____ algebra I_____
   geometry_____ algebra II_____ math III_____ math IV_____
   other (explain)_____
   _____
   How many years have you taught in present assignment?_____
   Other teaching positions held previous to present assignment:
   City_____ State_____ Grade level_____ Years_____
   City_____ State_____ Grade level_____ Years_____
   City_____ State_____ Grade level_____ Years_____
   If you did not teach immediately after graduation, list other positions held prior to teaching:_____
   _____
   Did your math education major help you in obtaining the above position? Yes_____ No_____

6. Present Position (job title) _____
   Did the math education major help you in obtaining this position? Yes_____ No_____
   Would you complete the math education major if you were to do it over? Yes_____ No_____
   Number of years teaching experience before present position and level of experience: Middle/junior high school_____ years____
   High school _____ years_____
   Voc/tech _____ years _____
   College _____ years _____

Reasons for leaving teaching (if more than one reason rank order the reasons for leaving, otherwise check one reason).

low teacher salaries _____
discipline problems in schools _____
low standing of teaching as a profession _____
students are unmotivated, uninterested in school _____
other (specify) _____

7. Present position (job title) _____
Did the math education major help you in obtaining this position? Yes_____ No_____
Would you complete the math education major if you were to do it over? Yes_____ No_____
Reason(s) for not teaching (if more than one reason for not teaching rank order the reasons, otherwise check one reason)
low teacher salaries_____
discipline problems in schools_____
low standing of teaching as a profession_____
students are unmotivated, uninterested in school_____
other (specify)_____

8. Rate the following courses in terms of their value in helping you teach effectively in the classroom (rate only those courses you took at Oshkosh):

	low value		high value	
adolescent development	1	2	3	4
social foundations in education	1	2	3	4
mathematics methods	1	2	3	4
junior clinical experience	1	2	3	4
student teaching	1	2	3	4
measurement and evaluation	1	2	3	4
reading	1	2	3	4
orientation to public education	1	2	3	4
education and minority groups	1	2	3	4
the exceptional child	1	2	3	4

9. Please list the major strengths of your teacher education preparation at UW-Oshkosh.

_____
_____
_____
_____

10. Please list the major weaknesses of your teacher education preparation at UW-Oshkosh.

_____
_____
_____
_____

Thank you for your time.
Sincerely,

Dr. Raymond C. Schmelter, Professor

I have looked everywhere, but I have not as yet received your completed questionnaire on the followup study of Math Education Majors from the University of Wisconsin-Oshkosh. I shall look forward to receiving it in the near future.

Sincerely,

Dr. Schmelter